

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A liquid separator for separating liquid from gases, comprising:

the combination of a water trap (1) and a holder unit (2),

the water trap (1) including a container (3), a connection (5) for incoming gas flow, a separation chamber (4) that includes a filter (7), and at least one connection passageway (9, 10) for leading liquid-free gas to an analysis instrument via the holder unit,

the holder unit being connectable to the analysis instrument,

the water trap (1) removably fitted in an external cavity of the holder unit (2),

the holder unit (2) provided with connection devices (15, 16) for accommodating the connection passageway (9, 10) within the external cavity, and

the holder unit (2) including a first electric contact element (18) which functions to detect the presence of a water trap (1) in the holder unit and to stop the flow of sample gas to

the analysis instrument when no water trap is fitted in the holder unit,

characterised in that the holder unit (2) includes a second electric contact element (17) which functions to detect the type of water trap (1) fitted in the holder unit and to adjust a flow rate of the analysis instrument in accordance with the type of water trap used.

2. (original) A liquid separator according to Claim 1, characterised in that the connection device (15, 16) is a quick-fastener device for connection to the connection passageway (9, 10).

3. (previously presented) A liquid separator according to Claim 1, characterised in that the water trap (1) includes two connection passageways (9, 10), and in that the holder unit (2) includes two connection devices (15, 16).

4. (cancelled)

5. (cancelled)

6. (currently amended) A liquid separator according to Claim [[5]] 1, characterised in that the water trap (1) is designed in different sizes for infants and adults; and in that

one size of the water trap includes a contact region to actuate the second electric contact element (17) of the holder unit.

7. (cancelled)

8. (previously presented) A liquid separator, comprising:

a holder unit (2); and

a water trap (1) externally held by the holder unit, the holder unit with connections to an instrument used to analyze expiration gas,

the holder unit configured to externally hold water traps of two different types,

the water trap comprising

a separation chamber (4) provided with a connection (5) to receive a gas flow incoming from a patient,

a container (3) located beneath the separation chamber, a liquid passageway (6) within the separation chamber and a filter (7) positioned above the passageway,

an upper chamber part (8) located above the separation chamber (4) and connecting to an upper side of the filter,

two connection passageways (9, 10), within the upper chamber part, connected via the filter to the separation chamber, the two connection passageways being connectable to the holder, and via the holder to the instrument,

locking tabs fitted externally to the separation chamber and engageable with corresponding elements of the holder to externally snap-fit the water trap to the holder unit and allow a user to remove the water trap from the holder,

the holder comprising two connection devices (15, 16), the two connection passageways (9, 10) are connectable to the two connection device, and

the two connection devices having outlets connectable to the instrument,

the two connection passageways, when connected to the connection devices of the holder unit, providing a main flow from the water trap to the instrument through a first of the two passageways and a secondary flow from the water trap to the instrument through a second of the two passageways,

the holder further comprising two electric contact elements (17, 18) provided in a rear edge of the cavity and activated by insertion of a water trap into the cavity,

a first of the contact elements configured to detect the presence of a water trap in the holder unit, so that when the water trap is removed from the holder unit, the contact element will function to stop a flow to the instrument, and

a second of the contact elements is configured to detect the type of water trap inserted into the holder unit.

9. (previously presented) The separator of claim 8, wherein the separation chamber is welded to the upper chamber part 8, and the filter is a bacteria filter.

10. (previously presented) The separator of claim 8, wherein the filter is a PTFE bacteria filter sealed with a labyrinth seal formed in the separation chamber and the upper chamber part.

11. (previously presented) The separator of claim 8, wherein,

the filter is a bacteria filter,  
the container is removable from the separation chamber to enable liquid collected in the container to be emptied therefrom.

12. (previously presented) The separator of claim 8, wherein the holder unit comprises an external receiving cavity (13) which holds the water trap.

13. (currently amended) The separator of claim 12, wherein the corresponding elements of the holder, to which the ~~that~~ locking tabs are engageable with to externally snap-fit the water trap to the holder unit, are locking apertures (14) which

receive the locking tabs on the water trap and therewith lock the trap in the holder unit.

14-15. (cancelled)

16. (previously presented) The separator of claim 8, wherein,

a first type of water trap presses in the second of the contact elements and the second of the contact elements signals the instrument to operate at a lower rate of flow than a maximum rate of flow, and

a second type of water trap which does not press against the second of the contact elements.

17. (cancelled)

18. (currently amended) A liquid separator, comprising:  
a holder unit (2) with an external cavity and connectable with expiration gas analysis instrument; and  
a water trap (1) externally held by the holder unit within the cavity,

the water trap comprising

a separation chamber (4) provided with a connection (5) to receive a gas flow incoming from a patient,  
a container (3) located beneath the separation chamber,

a liquid passageway (6) within the separation chamber and a filter (7) positioned above the passageway,

an upper chamber part (8) located above the separation chamber (4) and connecting to an upper side of the filter,

two connection passageways (9, 10), within the upper chamber part, connected via the filter to the separation chamber, the two connection passageways being connectable to the holder, and via the holder to the instrument, one of the passageways providing liquid-free gas to the analysis instrument,

locking tabs fitted externally to the water trap and engageable with corresponding elements of the holder to externally and removably fit the water trap to the holder unit to allow a user to remove the water trap from the holder, wherein,

the holder comprises two connection devices (15, 16), and

the two connection passageways are connectable to the two connection devices,

the two connection devices having outlets connectable to the instrument,

the holder unit is configured to externally hold water traps of two different types,

the holder further comprises two electric contact elements (17, 18) activated by insertion of the water trap of each type into the cavity,

a first of the contact elements configured to detect the presence of a water trap in the holder unit, so that when the water trap is removed from the holder unit, the first contact element will function to stop a flow to the instrument, and

a second of the contact elements configured to detect the type of water trap inserted into the holder unit and control a flow rate of the instrument based on the detected type of water trap. [.]

19. (previously presented) The separator of claim 18, wherein,

the filter is a bacteria filter, and

the container is removable from the separation chamber to enable liquid collected in the container to be emptied therefrom.

20. (cancelled)